

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- 72660
all
Cancelled
per Amol P.D.
- (i) APPLICANT: UNITED BIOMEDICAL INC., ET AL.
- (ii) TITLE OF INVENTION: ARTIFICIAL T HELPER CELL
EPITOPES AS IMMUNE STIMULATORS FOR SYNTHETIC
PEPTIDE IMMUNOGENS
- (iii) NUMBER OF SEQUENCES: 151
- (iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Morgan & Finnegan, L.L.P.
(B) STREET: 345 Park Avenue
(C) CITY: New York
(D) STATE: NY
(E) COUNTRY: USA
(F) ZIP: 10154-0054
- (v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC Windows
(D) SOFTWARE: Word 97
- (vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER: TO BE ASSIGNED
(B) FILING DATE: 21-JUNE-1999
(C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: 09/100,412
(B) FILING DATE: 20-JUNE-1998
- (viii) ATTORNEY/AGENT INFORMATION:
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- (ix) TELECOMMUNICATION INFORMATION:
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(2) INFORMATION FOR SEQ ID NO:1:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Leu Ser Glu Ile Lys Gly Val Ile Val His Arg Leu
1 5 10
Glu Gly Val
15

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Asp Leu Ser Asp Leu Lys Gly Leu Leu Leu His Lys
1 5 10
Leu Asp Gly Leu
15

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: LINEAR

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Glu Ile Ser Glu Ile Arg Gly Ile Ile Ile His Arg
1 5 10
Ile Glu Gly Ile
15

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: LINEAR

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Asp Val Ser Asp Val Lys Gly Val Val Val His Lys
1 5 10
Val Asp Gly Val
15

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: LINEAR

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Asp Phe Ser Asp Phe Lys Gly Phe Phe Phe His Lys
1 5 10
Phe Asp Gly Phe
15

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

Ile Ser Glu Ile Lys Gly Val Ile Val His Lys Ile
1 5 10
Glu Gly Ile
15

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(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

Met	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Met
1				5					10		
Glu	Thr	Met									
		15									

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys
1				5					10	
Leu	Glu	Gly	Val							
		15								

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

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Ile Thr Glu Ile Arg Thr Val Ile Val Thr Arg Ile
1 5 10
Glu Thr Ile
15

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Met Ser Glu Ile Lys Gly Val Ile Val His Lys Leu
1 5 10
Glu Gly Met
15

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Leu Thr Glu Met Arg Thr Val Ile Val Thr Arg Met
1 5 10
Glu Thr Val
15

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Ile
1				5					10		
Glu	Thr	Ile									
		15									

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Met	Ser	Glu	Met	Lys	Gly	Val	Ile	Val	His	Lys	Met
1				5					10		
Glu	Gly	Met									
		15									

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Leu	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Leu
1				5					10		
Glu	Thr	Val									
		15									

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

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Ile Ser Ile Ser Glu Ile Lys Gly Val Ile Val His
 1 5 10
 Lys Ile Glu Gly Ile Leu Phe
 15

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Ile Ser Met Thr Glu Ile Arg Thr Val Ile Val Thr
 1 5 10
 Arg Met Glu Thr Met Leu Phe
 15

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Ile Ser Leu Ser Glu Ile Lys Gly Val Ile Val His
 1 5 10
 Lys Leu Glu Gly Val Leu Phe
 15

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Ile Ser Ile Thr Glu Ile Arg Thr Val Ile Val Thr
 1 5 10
 Arg Ile Glu Thr Ile Leu Phe

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15

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Ile	Ser	Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5				10			
Lys	Leu	Glu	Gly	Met	Leu	Phe					
		15									

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Ile	Glu	Thr	Ile	Leu	Phe					
		15									

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Ile	Ser	Met	Ser	Glu	Met	Lys	Gly	Val	Ile	Val	His
1				5				10			
Lys	Met	Glu	Gly	Met	Leu	Phe					
		15									

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(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Ile	Ser	Leu	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Leu	Glu	Thr	Val	Leu	Phe					
				15							

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Phe	Phe	Leu	Leu	Thr	Arg	Ile	Leu	Thr	Ile	Pro	Gln
1				5					10		
Ser	Leu	Asp									
				15							

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Lys	Lys	Lys	Phe	Phe	Leu	Leu	Thr	Arg	Ile	Leu	Thr
1				5					10		
Ile	Pro	Gln	Ser	Leu	Asp						
				15							

(2) INFORMATION FOR SEQ ID NO:25:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Phe	Phe	Leu	Leu	Thr	Arg	Ile	Leu	Thr	Ile	Pro	Gln
1				5					10		
Ser	Leu										

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Lys	Lys	Lys	Leu	Phe	Leu	Leu	Thr	Lys	Leu	Leu	Thr
1				5					10		
Leu	Pro	Gln	Ser	Leu	Asp						
			15								

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Arg	Arg	Arg	Ile	Lys	Ile	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Pro	Leu	Ser	Ile	Arg						
			15								

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Lys Lys Lys Val Arg Val Val Thr Lys Val Val Thr
1 5 10
Val Pro Ile Ser Val Asp
15

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Lys Lys Lys Phe Phe Phe Phe Thr Lys Phe Phe Thr
1 5 10
Phe Pro Val Ser Phe Asp
15

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Lys Lys Lys Leu Phe Leu Leu Thr Lys Leu Leu Thr
1 5 10
Leu Pro Phe Ser Leu Asp
15

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Lys	Lys	Lys	Ile	Ile	Thr	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Ile	Thr	Thr	Ile	Asp						
			15								

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Lys	Lys	Lys	Ile	Ile	Thr	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Ile	Thr	Thr	Ile							
			15								

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Lys	Lys	Lys	Met	Met	Thr	Met	Thr	Arg	Met	Ile	Thr
1				5					10		
Met	Ile	Thr	Thr	Ile	Asp						
			15								

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

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Phe	Ile	Thr	Met	Asp	Thr	Lys	Phe	Leu	Leu	Ala	Ser
1				5					10		
Thr	His	Ile	Leu								
		15									

(2) INFORMATION FOR SEQ ID NO: 35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Lys	Lys	Lys	Phe	Ile	Thr	Met	Asp	Thr	Lys	Phe	Leu
1				5					10		
Leu	Ala	Ser	Thr	His	Ile	Leu					
		15									

(2) INFORMATION FOR SEQ ID NO:36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Arg	Leu
1				5					10		
Glu	Gly	Val	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO: 37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Asp Leu Ser Asp Leu Lys | Gly Leu Leu Leu His Lys

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1	5	10
Leu	Asp Gly Leu Gly Gly Glu His Trp	Ser Tyr Gly
	15	20
Leu	Arg Pro Gly	
25		

(2) INFORMATION FOR SEQ ID NO:38:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Glu	Ile	Ser	Glu	Ile	Arg	Gly	Ile	Ile	Ile	His	Arg
1				5					10		
Ile	Glu	Gly	Ile	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly
		15				20					
Leu	Arg	Pro	Gly								
25											

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Asp	Val	Ser	Asp	Val	Lys	Gly	Val	Val	Val	His	Lys
1				5					10		
Val	Asp	Gly	Val	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly
		15				20					
Leu	Arg	Pro	Gly								
25											

(2) INFORMATION FOR SEQ ID NO:40:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Asp	Phe	Ser	Asp	Phe	Lys	Gly	Phe	Phe	Phe	His	Lys
1				5					10		
Phe	Asp	Gly	Phe	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly
		15					20				
Leu	Arg	Pro	Gly								
25											

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Ile
1				5					10		
Glu	Gly	Ile	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Met	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Met
1				5					10		
Glu	Thr	Met	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

JC

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(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Leu	Ser	Glu	Ile	Lys	Gly	val	Ile	Val	His	Lys	Leu
1				5					10		
Glu	Gly	Val	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Ile
1				5					10		
Glu	Thr	Ile	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Ile	Ser	Glu	Ile	Lys	Gly
		15					20				
Val	Ile	Val	His	Lys	Ile	Glu	Gly	Ile	Gly	Gly	Glu
25				30						35	
His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly			
			40					45			

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(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Ile	Thr	Glu	Ile	Arg	Thr
		15					20				
Val	Ile	Val	Thr	Arg	Ile	Glu	Thr	Ile	Gly	Gly	Glu
25					30					35	
His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly			
				40							

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Met	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Leu
1				5					10		
Glu	Gly	Met	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

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Leu Thr Glu Met Arg Thr Val Ile Val Thr Arg Met
 1 5 10
 Glu Thr Val Gly Gly Glu His Trp Ser Tyr Gly Leu
 15 20
 Arg Pro Gly
 25

(2) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 27 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Ile Thr Glu Ile Arg Thr Val Ile Val Thr Arg Ile
 1 5 10
 Glu Thr Ile Gly Gly Glu His Trp Ser Tyr Gly Leu
 15 20
 Arg Pro Gly
 25

(2) INFORMATION FOR SEQ ID NO:50:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 27 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Met Ser Glu Met Lys Gly Val Ile Val His Lys Met
 1 5 10
 Glu Gly Met Gly Gly Glu His Trp Ser Tyr Gly Leu
 15 20
 Arg Pro Gly
 25

(2) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 27 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Leu	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Leu
1				5					10		
Glu	Thr	Val	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Leu	Thr	Glu	Ile	Arg	Thr
		15				20					
Val	Ile	Val	Thr	Arg	Leu	Glu	Thr	Val	Gly	Gly	Glu
25				30					35		
His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly			
		40						45			

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5					10		
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Gly	Gly	Glu	His	Trp
		15				20					
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25				30							

(2) INFORMATION FOR SEQ ID NO:54:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Ile	Ser	Met	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Met	Glu	Thr	Met	Leu	Phe	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25				30							

(2) INFORMATION FOR SEQ ID NO:55:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

Ile	Ser	Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5				10			
Lys	Leu	Glu	Gly	Val	Leu	Phe	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25				30							

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25				30							

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(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Ile	Ser	Ile	Ser	Glu	Ile
		15					20				
Lys	Gly	Val	Ile	Val	His	Lys	Ile	Glu	Gly	Ile	Leu
25					30					35	
Phe	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro
			40						45		
Gly											

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Ile	Ser	Ile	Thr	Glu	Ile
		15					20				
Arg	Thr	Val	Ile	Val	Thr	Arg	Ile	Glu	Thr	Ile	Leu
25					30					35	
Phe	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro
			40						45		
Gly											

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

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Ile	Ser	Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5					10		
Lys	Leu	Glu	Gly	Met	Leu	Phe	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25					30						

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly
		15					20				
Val	Ile	Val	His	Lys	Ile	Glu	Gly	Ile	Leu	Phe	Gly
25				30					35		
Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly	
		40						45			

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25					30						

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Ile	Ser	Ile	Thr	Glu	Ile
		15					20				
Arg	Thr	Val	Ile	Val	Thr	Arg	Ile	Glu	Thr	Ile	Leu
25					30					35	
Phe	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro
			40						45		
Gly											

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Ile	Ser	Met	Ser	Glu	Met	Lys	Gly
		15					20				
Val	Ile	Val	His	Lys	Met	Glu	Gly	Met	Leu	Phe	Gly
25				30					35		
Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly	
			40						45		

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Ile	Ser	Leu	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Leu	Glu	Thr	Val	Leu	Phe	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					

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25

30

(2) INFORMATION FOR SEQ ID NO:65

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65

Phe	Phe	Leu	Leu	Thr	Arg	Ile	Leu	Thr	Ile	Pro	Gln
1				5				10			
Ser	Leu	Asp	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly	Leu
		15					20				
Arg	Pro	Gly									
25											

(2) INFORMATION FOR SEQ ID NO:66

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66

Lys	Lys	Lys	Leu	Phe	Leu	Leu	Thr	Lys	Leu	Leu	Thr
1				5				10			
Leu	Pro	Gln	Ser	Leu	Asp	Gly	Gly	Glu	His	Trp	Ser
		15					20				
Tyr	Gly	Leu	Arg	Pro	Gly						
25					30						

(2) INFORMATION FOR SEQ ID NO:67

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67

Arg	Arg	Arg	Ile	Lys	Ile	Ile	Thr	Arg	Ile	Ile	Thr
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1				5				10
Ile	Pro	Leu	Ser	Ile	Arg	Gly	Gly	Glu
		15					20	His
Tyr	Gly	Leu	Arg	Pro	Gly			Trp
25					30			Ser

(2) INFORMATION FOR SEQ ID NO: 68

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68

[illegible]

(2) INFORMATION FOR SEQ ID NO: 69

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69

Lys	Lys	Lys	Phe	Phe	Phe	Phe	Thr	Lys	Phe	Phe	Thr
1				5					10		
Phe	Pro	Val	Ser	Phe	Asp	Gly	Gly	Glu	His	Trp	Ser
		15					20				
Tyr	Gly	Leu	Arg	Pro	Gly						
25					30						

(2) INFORMATION FOR SEQ ID NO:70

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70

```

Lys Lys Lys Leu Phe Leu Leu Thr Lys Leu Leu Thr
 1             5             10
Leu Pro Phe Ser Leu Asp Gly Gly Glu His Trp Ser
      15             20
Tyr Gly Leu Arg Pro Gly
25             30

```

(2) INFORMATION FOR SEQ ID NO:71:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

```

Lys Lys Lys Ile Ile Thr Ile Thr Arg Ile Ile Thr
 1             5             10
Ile Ile Thr Thr Ile Asp Gly Gly Glu His Trp Ser
      15             20
Tyr Gly Leu Arg Pro Gly
25             30

```

(2) INFORMATION FOR SEQ ID NO:72:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

```

Lys Lys Lys Ile Ile Thr Ile Thr Arg Ile Ile Thr
 1             5             10
Ile Ile Thr Thr Ile Gly Gly Glu His Trp Ser Tyr
      15             20
Gly Leu Arg Pro Gly
25

```

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Lys	Lys	Lys	Met	Met	Thr	Met	Thr	Arg	Met	Ile	Thr
1				5					10		
Met	Ile	Thr	Thr	Ile	Asp	Gly	Gly	Glu	His	Trp	Ser
		15					20				
Tyr	Gly	Leu	Arg	Pro	Gly						
25					30						

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Phe	Ile	Thr	Met	Asp	Thr	Lys	Phe	Leu	Leu	Ala	Ser
1				5				10			
Thr	His	Ile	Leu	Gly	Gly	Glu	His	Trp	Ser	Tyr	Gly
		15					20				
Leu	Arg	Pro	Gly								
25											

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Phe	Ile	Thr	Met	Asp	Thr
		15					20				
Lys	Phe	Leu	Leu	Ala	Ser	Thr	His	Ile	Leu	Gly	Gly
25				30					35		
Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly		
		40					45				

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(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Lys	Lys	Lys	Phe	Ile	Thr	Met	Asp	Thr	Lys	Phe	Leu
1				5					10		
Leu	Ala	Ser	Thr	His	Ile	Leu	Gly	Gly	Glu	His	Trp
		15					20				
Ser	Tyr	Gly	Leu	Arg	Pro	Gly					
25				30							

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly
1				5					10

(2) INFORMATION FOR SEQ ID NO:78:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe								
		15									

(2) INFORMATION FOR SEQ ID NO:79:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Pro Pro Xaa Pro Xaa Pro
1 5

(2) INFORMATION FOR SEQ ID NO:80:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Ala Gly Cys Lys Asn Phe Phe Trp Lys Thr Phe Thr
1 5 10
Ser Cys

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Ile Ser Glu Ile Lys Gly Val Ile Val His Lys Ile
1 5 10
Glu Gly Ile Gly Gly Ala Gly Cys Lys Asn Phe Phe
15 20
Trp Lys Thr Phe Thr Ser Cys
25 30

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Met	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Met
1				5					10		
Glu	Thr	Met	Gly	Gly	Ala	Gly	Cys	Lys	Asn	Phe	Phe
		15					20				
Trp	Lys	Thr	Phe	Thr	Ser	Cys					
25				30							

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Leu
1				5					10		
Glu	Gly	Val	Gly	Gly	Ala	Gly	Cys	Lys	Asn	Phe	Phe
		15					20				
Trp	Lys	Thr	Phe	Thr	Ser	Cys					
25				30							

(2) INFORMATION FOR SEQ ID NO:84:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Ala	Gly	Cys	Lys	Asn	Phe	Phe	Trp	Lys	Thr	Phe	Thr
1				5					10		
Ser	Cys	Gly	Gly	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile
		15					20				
Val	His	Lys	Ile	Glu	Gly	Ile					
25				30							

(2) INFORMATION FOR SEQ ID NO:85:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Ala	Gly	Cys	Lys	Asn	Phe	Phe	Trp	Lys	Thr	Phe	Thr
1				5					10		
Ser	Cys	Gly	Gly	Met	Thr	Glu	Ile	Arg	Thr	Val	Ile
		15					20				
Val	Thr	Arg	Met	Gly	Thr	Met					
25				30							

(2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Ala	Gly	Cys	Lys	Asn	Phe	Phe	Trp	Lys	Thr	Phe	Thr
1				5					10		
Ser	Cys	Gly	Gly	Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile
		15					20				
Val	His	Lys	Leu	Glu	Gly	Val					
25				30							

(2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Lys	Lys	Lys	Ile	Ile	Thr	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Ile	Thr	Thr	Ile	Asp	Gly	Gly	Ala	Gly	Cys	Lys
		15					20				
Asn	Phe	Phe	Trp	Lys	Thr	Phe	Thr	Ser	Cys		
25				30							

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(2) INFORMATION FOR SEQ ID NO:88:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Cys	Asn	Gln	Gly	Ser	Phe	Leu	Thr	Lys	Gly	Pro	Ser
1				5					10		
Lys	Leu	Asn	Asp	Arg	Ala	Asp	Ser	Arg	Arg	Ser	Leu
		15					20				
Trp	Asp	Gln	Gly	Asn	Cys						
25				30							

(2) INFORMATION FOR SEQ ID NO:89:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Ile
1				5					10		
Glu	Gly	Ile	Gly	Gly	Cys	Asn	Gln	Gly	Ser	Phe	Leu
		15					20				
Thr	Lys	Gly	Pro	Ser	Lys	Leu	Asn	Asp	Arg	Ala	Asp
25				30						35	
Ser	Arg	Arg	Ser	Leu	Trp	Asp	Gln	Gly	Asn	Cys	
			40					45			

(2) INFORMATION FOR SEQ ID NO:90:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

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Met	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Met
1				5					10		
Glu	Thr	Met	Gly	Gly	Cys	Asn	Gln	Gly	Ser	Phe	Leu
	15						20				
Thr	Lys	Gly	Pro	Ser	Lys	Leu	Asn	Asp	Arg	Ala	Asp
25				30						35	
Ser	Arg	Arg	Ser	Leu	Trp	Asp	Gln	Gly	Asn	Cys	
			40						45		

(2) INFORMATION FOR SEQ ID NO:91:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Leu	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Leu
1				5					10		
Glu	Gly	Val	Gly	Gly	Cys	Asn	Gln	Gly	Ser	Phe	Leu
	15						20				
Thr	Lys	Gly	Pro	Ser	Lys	Leu	Asn	Asp	Arg	Ala	Asp
25				30						35	
Ser	Arg	Arg	Ser	Leu	Trp	Asp	Gln	Gly	Asn	Cys	
			40						45		

(2) INFORMATION FOR SEQ ID NO:92:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Cys	Gly	Glu	Thr	Tyr	Gln	Ser	Arg	Val	Thr	His	Pro
1				5					10		
His	Leu	Pro	Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys
	15						20				
Cys											
25											

(2) INFORMATION FOR SEQ ID NO:93:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids

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(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5				10			
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Gly	Gly	Cys	Gly	Glu
		15					20				
Thr	Tyr	Gln	Ser	Arg	Val	Thr	His	Pro	His	Leu	Pro
25				30						35	
Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys	Cys		
		40						45			

(2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 46 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Gly	Gly	Cys	Gly	Glu
		15					20				
Thr	Tyr	Gln	Ser	Arg	Val	Thr	His	Pro	His	Leu	Pro
25				30						35	
Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys	Cys		
		40						45			

(2) INFORMATION FOR SEQ ID NO:95:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 42 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Ile
1				5				10			
Glu	Gly	Ile	Gly	Gly	Cys	Gly	Glu	Thr	Tyr	Gln	Ser
		15					20				

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Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met
 25 30 35
 Arg Ser Thr Thr Lys Cys
 40

(2) INFORMATION FOR SEQ ID NO:96:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 42 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

Met Thr Glu Ile Arg Thr Val Ile Val Thr Arg Met
 1 5 10
 Glu Thr Met Gly Gly Cys Gly Glu Thr Tyr Gln Ser
 15 20
 Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met
 25 30 35
 Arg Ser Thr Thr Lys Cys
 40

(2) INFORMATION FOR SEQ ID NO:97:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 42 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

Leu Ser Glu Ile Lys Gly Val Ile Val His Lys Leu
 1 5 10
 Glu Gly Val Gly Gly Cys Gly Glu Thr Tyr Gln Ser
 15 20
 Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met
 25 30 35
 Arg Ser Thr Thr Lys Cys
 40

(2) INFORMATION FOR SEQ ID NO:98:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 45 amino acids
 (B) TYPE: amino acid

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

Lys	Lys	Lys	Ile	Ile	Thr	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Ile	Thr	Thr	Ile	Asp	Gly	Gly	Cys	Gly	Glu	Thr
		15					20				
Tyr	Gln	Ser	Arg	Val	Thr	His	Pro	His	Leu	Pro	Arg
25					30				35		
Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys	Cys			
			40					45			

(2) INFORMATION FOR SEQ ID NO:99:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 63 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Lys	Lys	Lys	Ile	Ile	Thr
		15					20				
Ile	Thr	Arg	Ile	Ile	Thr	Ile	Ile	Thr	Thr	Ile	Asp
25					30					35	
Gly	Gly	Cys	Gly	Glu	Thr	Tyr	Gln	Ser	Arg	Val	Thr
			40					45			
His	Pro	His	Leu	Pro	Arg	Ala	Leu	Met	Arg	Ser	Thr
	50					55					60
Thr	Lys	Cys									

(2) INFORMATION FOR SEQ ID NO:100:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

Arg	His	Lys	Gln	Lys	Ile	Val	Ala	Pro	Val	Lys	Gln
1				5					10		

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Thr	Leu	Pro	Pro	Ser	Val	Pro	Asn	Leu	Arg	Gly	Asp
		15					20				
Leu	Gln	Val	Leu	Ala	Gln	Lys	Val	Ala	Arg	Thr	Pro
25					30					35	
Cys	Gly										

(2) INFORMATION FOR SEQ ID NO:101:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 56 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Lys	Lys	Lys	Ile	Ile	Thr	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Ile	Thr	Thr	Ile	Asp	Gly	Gly	Cys	Lys	Tyr	Gly
		15					20				
Glu	Asn	Ala	Val	Thr	Asn	Val	Arg	Gly	Asp	Leu	Gln
25					30					35	
Val	Leu	Ala	Gln	Lys	Ala	Ala	Arg	Cys	Leu	Pro	Thr
			40					45			
Ser	Phe	Asn	Tyr	Gly	Ala	Ile	Lys				
	50					55					

(2) INFORMATION FOR SEQ ID NO:102

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 72 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102

Thr	Ala	Lys	Ser	Lys	Lys	Phe	Pro	Ser	Tyr	Thr	Ala
1				5					10		
Thr	Tyr	Gln	Phe	Gly	Gly	Lys	Lys	Lys	Ile	Ile	Thr
		15					20				
Ile	Thr	Arg	Ile	Ile	Thr	Ile	Ile	Thr	Thr	Ile	Asp
25					30					35	
Gly	Gly	Cys	Thr	Tyr	Gly	Thr	Gln	Pro	Ser	Arg	Arg
			40					45			
Gly	Asp	Met	Ala	Ala	Leu	Ala	Gln	Arg	Leu	Ser	Arg
	50					55				60	
Cys	Leu	Pro	Thr	Ser	Phe	Asn	Tyr	Gly	Ala	Val	Lys
				65						70	

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(2) INFORMATION FOR SEQ ID NO:103

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103

Asn Ala Asn Pro

1

(2) INFORMATION FOR SEQ ID NO:104

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5					10		
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Lys	Asn	Ala	Asn	Pro
		15					20				
Asn	Ala	Asn	Pro	Asn	Ala	Asn	Pro	Asn	Ala	Asn	Pro
25				30						35	

(2) INFORMATION FOR SEQ ID NO:105

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Lys	Asn	Ala	Asn	Pro
		15					20				
Asn	Ala	Asn	Pro	Asn	Ala	Asn	Pro	Asn	Ala	Asn	Pro
25				30						35	

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(2) INFORMATION FOR SEQ ID NO:106

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106

Arg	Asp	Gly	Phe	Leu	Leu	Leu	Gln	Met	Asp	Phe	Gly
1				5					10		
Phe	Pro	Glu	His	Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser
		15					20				
Leu	Ser										
25											

(2) INFORMATION FOR SEQ ID NO:107

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107

Phe	Gly	Phe	Pro	Glu	His	Leu	Leu	Val	Asp	Phe	Leu
1				5					10		
Gln	Ser	Leu	Ser								
		15									

(2) INFORMATION FOR SEQ ID NO:108

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108

Phe	Gly	Phe	Pro	Lys	His	Leu	Leu	Val	Asp	Phe	Leu
1				5					10		
Gln	Ser	Leu	Ser								
		15									

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(2) INFORMATION FOR SEQ ID NO:109

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109

Leu	Asp	Gly	Cys	Leu	Leu	Leu	Gln	Met	Asp	Phe	Gly
1				5					10		
Phe	Pro	Lys	His	Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser
		15					20				
Leu	Ser										
25											

(2) INFORMATION FOR SEQ ID NO:110

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5					10		
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Lys	Arg	Asp	Gly	Phe
		15					20				
Leu	Leu	Leu	Gln	Met	Asp	Phe	Gly	Phe	Pro	Glu	His
25				30						35	
Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser	Leu	Ser		
		40						45			

(2) INFORMATION FOR SEQ ID NO:111

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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1	5	10
Arg Ile Glu Thr Ile Leu	Phe Lys Arg Asp Gly Phe	
15	20	
Leu Leu Leu Gln Met Asp	Phe Gly Phe Pro Glu His	
25	30	35
Leu Leu Val Asp Phe Leu	Gln Ser Leu Ser	
40	45	

(2) INFORMATION FOR SEQ ID NO:112

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 36 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112

Ile Ser Ile Ser Glu Ile	Lys Gly Val Ile Val His
1	5 10
Lys Ile Glu Gly Ile Leu	Phe Lys Phe Gly Phe Pro
15	20
Glu His Leu Leu Val Asp	Phe Leu Gln Ser Leu Ser
25	30 35

(2) INFORMATION FOR SEQ ID NO:113

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 36 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113

Ile Ser Ile Thr Glu Ile	Arg Thr Val Ile Val Thr
1	5 10
Arg Ile Glu Thr Ile Leu	Phe Lys Phe Gly Phe Pro
15	20
Glu His Leu Leu Val Asp	Phe Leu Gln Ser Leu Ser
25	30 35

(2) INFORMATION FOR SEQ ID NO:114

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 35 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114

Lys	Lys	Lys	Ile	Ile	Thr	Ile	Thr	Arg	Ile	Ile	Thr
1				5					10		
Ile	Ile	Thr	Thr	Ile	Asp	Lys	Phe	Gly	Phe	Pro	Glu
		15					20				
His	Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser	Leu	Ser	
25				30						35	

(2) INFORMATION FOR SEQ ID NO:115

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 36 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115

Ile	Ser	Leu	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Leu	Glu	Thr	Val	Leu	Phe	Lys	Phe	Gly	Phe	Pro
		15					20				
Glu	His	Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser	Leu	Ser
25				30						35	

(2) INFORMATION FOR SEQ ID NO:116

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 36 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5					10		
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Lys	Phe	Gly	Phe	Pro
		15					20				
Lys	His	Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser	Leu	Ser
25				30						35	

(2) INFORMATION FOR SEQ ID NO:117

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Lys	Phe	Gly	Phe	Pro
		15					20				
Lys	His	Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser	Leu	Ser
25					30					35	

(2) INFORMATION FOR SEQ ID NO:118

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:118

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5					10		
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Lys	Leu	Asp	Gly	Cys
		15					20				
Leu	Leu	Leu	Gln	Met	Asp	Phe	Gly	Phe	Pro	Lys	His
25				30						35	
Leu	Leu	Val	Asp	Phe	Leu	Gln	Ser	Leu	Ser		
		40						45			

(2) INFORMATION FOR SEQ ID NO:119

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:119

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5					10		
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Lys	Leu	Asp	Gly	Cys

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	15		20
Leu	Leu	Leu	Gln
Met	Asp	Phe	Gly
Phe	Pro	Lys	His
25		30	35
Leu	Leu	Val	Asp
Phe	Leu	Gln	Ser
Leu	Ser	Leu	Ser
40		45	

(2) INFORMATION FOR SEQ ID NO:120:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5				10			
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Pro	Pro	Xaa	Pro	Xaa
		15				20					
Pro	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly	
25				30				35			

(2) INFORMATION FOR SEQ ID NO:121:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Pro	Pro	Xaa	Pro	Xaa
		15				20					
Pro	Glu	His	Trp	Ser	Tyr	Gly	Leu	Arg	Pro	Gly	
25				30				35			

(2) INFORMATION FOR SEQ ID NO:122:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

```

Lys Lys Lys Ile Ile Thr Ile Thr Arg Ile Ile Thr
1           5           10
Ile Ile Thr Thr Ile Asp Pro Pro Xaa Pro Xaa Pro
          15           20
Glu His Trp Ser Tyr Gly Leu Arg Pro Gly
25           30

```

(2) INFORMATION FOR SEQ ID NO:123:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

```

Ile Ser Leu Thr Glu Ile Arg Thr Val Ile Val Thr
1           5           10
Arg Leu Glu Thr Val Leu Phe
          15

```

(2) INFORMATION FOR SEQ ID NO:124:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

```

Ile Ser Ile Thr Glu Ile Arg Thr Val Ile Val Thr
1           5           10
Arg Ile Glu Thr Ile Leu Phe
          15

```

(2) INFORMATION FOR SEQ ID NO:125:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

Glu	Ser	Val	Glu	Ile	Asn	Cys	Thr	Arg	Pro	Asn	Asn
1				5					10		
Asn	Thr	Arg	Lys	Ser	Ile	Arg	Ile	Gly	Pro	Gly	Gln
		15					20				
Ala	Phe	Tyr	Ala	Thr	Gly	Asp					
25					30						

(2) INFORMATION FOR SEQ ID NO:126:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 22
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:126:

Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
1				5				10			
Lys	Ile	Glu	Gly	Ile	Leu	Phe	Xaa	Glu	Ser	Val	Glu
		15					20				
Ile	Asn	Cys	Thr	Arg	Pro	Asn	Asn	Asn	Thr	Arg	Lys
25				30					35		
Ser	Ile	Arg	Ile	Gly	Pro	Gly	Gln	Ala	Phe	Tyr	Ala
			40					48			
Thr	Gly	Asp									
		50									

(2) INFORMATION FOR SEQ ID NO:127:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 22
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:127:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Ile	Glu	Thr	Ile	Leu	Phe	Xaa	Glu	Ser	Val	Glu
		15					20				
Ile	Asn	Cys	Thr	Arg	Pro	Asn	Asn	Asn	Thr	Arg	Lys
25					30					35	
Ser	Ile	Arg	Ile	Gly	Pro	Gly	Gln	Ala	Phe	Tyr	Ala
			40					48			
Thr	Gly	Asp									
		50									

(2) INFORMATION FOR SEQ ID NO:128:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 20
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:

Ile	Ser	Leu	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Leu	Glu	Thr	Val	Leu	Phe	Xaa	Glu	Ser	Val	Glu
		15					20				
Ile	Asn	Cys	Thr	Arg	Pro	Asn	Asn	Asn	Thr	Arg	Lys
25					30					35	
Ser	Ile	Arg	Ile	Gly	Pro	Gly	Gln	Ala	Phe	Tyr	Ala
			40					48			
Thr	Gly	Asp									
		50									

(2) INFORMATION FOR SEQ ID NO:129:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site

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(B) LOCATION: 20

(C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:

Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr
1				5				10			
Arg	Ile	Glu	Thr	Val	Ile	Phe	Xaa	Glu	Ser	Val	Glu
		15					20				
Ile	Asn	Cys	Thr	Arg	Pro	Asn	Asn	Asn	Thr	Arg	Lys
25					30					35	
Ser	Ile	Arg	Ile	Gly	Pro	Gly	Gln	Ala	Phe	Tyr	Ala
			40					48			
Thr	Gly	Asp									
	50										

(2) INFORMATION FOR SEQ ID NO:130:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids

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(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:

Lys Ser Ser Gly Lys Leu Ile Ser Leu
1 5

(2) INFORMATION FOR SEQ ID NO:131:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:131:

Cys Asn Gly Arg Leu Tyr Cys Gly Pro
1 5

(2) INFORMATION FOR SEQ ID NO:132:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:132:

Cys Gly Thr Lys Leu Val Cys Phe Ala Ala
1 5 10

(2) INFORMATION FOR SEQ ID NO:133:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

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Lys Arg Ile Val Ile Gly Pro Gln Thr
1 5

(2) INFORMATION FOR SEQ ID NO:134:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

Cys Ala Gly Gly Leu Thr Cys Ser Val
1 5

(2) INFORMATION FOR SEQ ID NO:135:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:135:

Cys Ser Gly Arg Leu Tyr Cys His Glu Ser Trp
1 5 10

(2) INFORMATION FOR SEQ ID NO:136:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 10
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:136:

Lys Ser Ser Gly Lys Leu Ile Ser Leu Xaa Ile Ser
1 5 10
Ile Ser Glu Ile Lys Gly Val Ile Val His Lys Ile

115

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15
Glu Gly Ile Leu Phe
25

20

(2) INFORMATION FOR SEQ ID NO:137:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 10
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:137:

Lys	Ser	Ser	Gly	Lys	Leu	Ile	Ser	Leu	Xaa	Ile	Ser
1				5				10			
Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Ile
		15				20					
Glu	Thr	Ile	Leu	Phe							
25											

(2) INFORMATION FOR SEQ ID NO:138:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 10
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:138:

Cys	Asn	Gly	Arg	Leu	Tyr	Cys	Gly	Pro	Xaa	Ile	Ser
1				5				10			
Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Ile
		15				20					
Glu	Gly	Ile	Leu	Phe							
25											

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(2) INFORMATION FOR SEQ ID NO:139:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 10
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:139:

Cys	Asn	Gly	Arg	Leu	Tyr	Cys	Gly	Pro	Xaa	Ile	Ser
1				5					10		
Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Ile
		15					20				
Glu	Thr	Ile	Leu	Phe							
25											

(2) INFORMATION FOR SEQ ID NO:140:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 11
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:140:

Cys	Gly	Thr	Lys	Leu	Val	Cys	Phe	Ala	Ala	Xaa	Ile
1				5					10		
Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys
		15					20				
Ile	Glu	Gly	Ile	Leu	Phe						
25				30							

(2) INFORMATION FOR SEQ ID NO:141:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid

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(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified site

(B) LOCATION: 11

(C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:141:

Cys	Gly	Thr	Lys	Leu	Val	Cys	Phe	Ala	Ala	Xaa	Ile
1				5						10	
Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg
			15							20	
Ile	Glu	Thr	Ile	Leu	Phe						
25					30						

(2) INFORMATION FOR SEQ ID NO:142:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 29 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Modified site

(B) LOCATION: 10

(C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:142:

Lys	Arg	Ile	Val	Ile	Gly	Pro	Gln	Thr	Xaa	Ile	Ser
1				5						10	
Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Ile
			15							20	
Glu	Gly	Ile	Leu	Phe							
25											

(2) INFORMATION FOR SEQ ID NO:143:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 29 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

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- (A) NAME/KEY: Modified site
(B) LOCATION: 10
(C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:143:

Lys	Arg	Ile	Val	Ile	Gly	Pro	Gln	Thr	Xaa	Ile	Ser
1				5					10		
Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Ile
		15					20				
Glu	Thr	Ile	Leu	Phe							
25											

(2) INFORMATION FOR SEQ ID NO:144:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 29 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
(B) LOCATION: 10
(C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:144:

Cys	Ala	Gly	Gly	Leu	Thr	Cys	Ser	Val	Xaa	Ile	Ser
1				5					10		
Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His	Lys	Ile
		15					20				
Glu	Gly	Ile	Leu	Phe							
25											

(2) INFORMATION FOR SEQ ID NO:145:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 29 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
(B) LOCATION: 10
(C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:145:

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Cys	Ala	Gly	Gly	Leu	Thr	Cys	Ser	Val	Xaa	Ile	Ser
1				5					10		
Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr	Arg	Ile
		15				20					
Glu	Thr	Ile	Leu	Phe							
25											

(2) INFORMATION FOR SEQ ID NO:146:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 12
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:146:

Cys	Ser	Gly	Arg	Leu	Tyr	Cys	His	Glu	Ser	Trp	Xaa
1				5				10			
Ile	Ser	Ile	Ser	Glu	Ile	Lys	Gly	Val	Ile	Val	His
		15				20					
Lys	Ile	Glu	Gly	Ile	Leu	Phe					
25				30							

(2) INFORMATION FOR SEQ ID NO:147:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 12
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:147:

Cys	Ser	Gly	Arg	Leu	Tyr	Cys	His	Glu	Ser	Trp	Xaa
1				5				10			
Ile	Ser	Ile	Thr	Glu	Ile	Arg	Thr	Val	Ile	Val	Thr

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15 20
 Arg Ile Glu Gly Ile Leu Phe
 25 30

(2) INFORMATION FOR SEQ ID NO:148:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:148:

Ile Ser Ile Ser Glu Ile Lys Gly Val Ile Val His
 1 5 10
 Lys Ile Glu Gly Ile Leu Phe Gly Gly Glu Ser Val
 15 20
 Glu Ile Asn Cys Thr Arg Pro Asn Asn Asn Thr Arg
 25 30 36
 Lys Ser Ile Arg Ile Gly Pro Gly Gln Ala Phe Tyr
 40 45
 Ala Thr Gly Asp
 50

(2) INFORMATION FOR SEQ ID NO:149:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:149:

Ile Ser Ile Thr Glu Ile Arg Thr Val Ile Val Thr
 1 5 10
 Arg Ile Glu Thr Ile Leu Phe Gly Gly Glu Ser Val
 15 20
 Glu Ile Asn Cys Thr Arg Pro Asn Asn Asn Thr Arg
 25 30 36
 Lys Ser Ile Arg Ile Gly Pro Gly Gln Ala Phe Tyr
 40 45
 Ala Thr Gly Asp
 50

(2) INFORMATION FOR SEQ ID NO:150:

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(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 20
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:150:

```

Ile Ser Leu Thr Glu Ile Arg Thr Val Ile Val Thr
1              5              10
Arg Leu Glu Thr Val Leu Phe Xaa Glu Ser Val Glu
          15              20
Ile Asn Cys Thr Arg Pro Asn Asn Asn Thr Arg Lys
25              30              35
Ser Ile Arg Ile Gly Pro Gly Gln Ala Phe Tyr Ala
          40              48
Thr Gly
          50

```

(2) INFORMATION FOR SEQ ID NO:151:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

- (A) NAME/KEY: Modified site
- (B) LOCATION: 20
- (C) OTHER INFORMATION: /note= "(e-N)Lys"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:151:

```

Ile Ser Ile Thr Glu Ile Arg Thr Val Ile Val Thr
1              5              10
Arg Ile Glu Thr Val Ile Phe Xaa Glu Ser Val Glu
          15              20
Ile Asn Cys Thr Arg Pro Asn Asn Asn Thr Arg Lys
25              30              35
Ser Ile Arg Ile Gly Pro Gly Gln Ala Phe Tyr Ala
          40              48
Thr Gly
          50

```

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